



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,977	12/05/2003	Noboru Aoki	03280089 AA	7232
30743 7590 03/25/2010 WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C. 11491 SUNSET HILLS ROAD SUITE 340 RESTON, VA 20190				
EXAMINER THOMAS, ASHISH				
ART UNIT 2625		PAPER NUMBER		
MAIL DATE 03/25/2010		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/727,977

Applicant(s)

AOKI ET AL.

Examiner

ASHISH K. THOMAS

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 10 and 11 of the remarks, filed on 2/26/2010, with respect to the rejection(s) of claim(s) 1-9 under Nagasawa have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Matsumoto.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- A. Determining the scope and contents of the prior art.
- B. Ascertaining the differences between the prior art and the claims at issue.
- C. Resolving the level of ordinary skill in the pertinent art.
- D. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 1, 3, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto(U.S. 2002/0039116) in view of Moro(U.S. 6,327,051) and further in view of Matsumoto(U.S. 5,835,765).

Regarding claim 1, Hashimoto teaches a printer(**Printing machine 10 illustrated in figure 1**) comprising: a print unit(**Image formation unit stated in paragraph 44**) that performs a print operation to print images on a recording medium(**Printing sheet stated in paragraph 44**) based on operatable print data; an error detecting unit that detects a predetermined error during the print operation(**Error detection unit 35 disclosed in paragraphs 61-64**), the print operation being performable without change even if the error occurs(**Paragraph 71 teaches a continuable error. The continued printing means that the print operation is performed without change even if the error occurs.**), the predetermined error having a nature(**Paragraph 61 and 63 disclose the types of error-ink error and paper discharge error. This reads on the nature of the error.**); a categorizing unit that categorizes the detected predetermined error into one of a plurality of given categories based on the nature(**Paragraphs 61 and 63 teach the categorization of errors. i.e. ink error, discharge error. This inherently teaches the existence of the categorization unit.**), wherein each of said given categories includes a plurality of different predetermined errors from among the predetermined errors(**Figure 7b illustrates different stages within the "ink error" category.**); a setting unit that sets one error recovery method from among different error recovery methods for each of a plurality of error categories, the error recovery methods including an automatic print continuation and a recovery by user's operation(**Paragraph 71 and figure 4 teach print continuation as well as recovery via user action. The existence of these two solutions implicitly teaches the setting unit stated in the claim language. After**

all, these two solutions must be set at some point in time so that the printer knows what course of action to follow.); a memory that stores a correspondence data indicating the set error recovery method of each error category(Paragraph 71 teaches ROM 34 that stores an error classification table); a method detecting unit that detects an error recovery method corresponding to the categorized error category with reference to the correspondence data stored in the memory(CPU 30, disclosed in paragraph 71, judges the recovery method based on the correspondence data in the error classification table.); and an error recovery unit that executes an error recovery procedure according to the error recovery method detected by the method detecting unit. (CPU 30, taught in paragraph 71, executes the recovery process.)

Hashimoto fails to teach that the predetermined error occurs when print data inputted into the printing unit is other than the operatable print data.

Moro, on the other hand, teaches errors resulting from non-operatable print data. (Column 26, lines 25-45 teaches paper size mismatch errors. This is an example of a non-operatable error since the operation cannot go forth due to the mismatch.)

Therefore, it would have been obvious for one of ordinary skill in the art, at the time of the present invention, to modify Hashimoto with Moro to put forth the printer claimed in claim 1.

The motivation is to widen the category of errors that are detected. In turn, this will put forth a more comprehensive error detection system.

Yet, the combination of Hashimoto and Moro fails to teach a setting unit wherein a user can input recovery conditions.

Matsumoto, on the other hand, teaches a setting unit wherein a user can input recovery conditions. **(Column 3, lines 40-50 teaches that the user is able to set predefined error recovery methods. This implies the existence of a setting unit.)**

Therefore, it would have been obvious for one of ordinary skill in the art, at the time of the present application, to modify Hashimoto and Moro with Matsumoto to fully put forth the printer claimed in claim 1.

The motivation behind this modification is to enhance the user interaction by permitting more inputs in the designation of recovery methods.

Regarding Claim 3, Hashimoto further teaches the printer of claim 1, wherein the memory is a nonvolatile memory. **(Paragraph 71 teaches ROM 34.)**

Regarding claim 4, the combination of Hashimoto, Moro, and Matsumoto teaches the claimed the subject matter. Furthermore, note that Matsumoto teaches receiving updating instructions with respect to the recovery process from the user. **(Column 3, lines 40-50)**

Regarding claim 5, it is rejected in the same manner as claim 1 since a control program that corresponds to the subject matter of claim 1 is claimed. Furthermore, paragraphs 54-56 of Hashimoto teaches a storage that stores the control program.

3. Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto(U.S. 2002/0039116) in view of Moro(U.S. 6,327,051), Matsumoto(U.S. 5,835,765), Seshimo(U.S. 6,971,732), and Kageyama(U.S. 6,504,619).

Regarding claims 2 and 6, the combination of Hashimoto, Moro, and Matsumoto teaches the subject matter claimed in the respective base claims. Hashimoto further teaches a display unit for displaying a message. **(Figure 4 illustrates a display unit).** Hashimoto further teaches that in response to the error recovery method detected by the method detecting unit being an automatic print continuation recovery method, the error recovery unit automatically executes an error recovery procedure**(Paragraph 71 teaches the error recovery process, especially the print continuation method.)**, displays an information on the display representing the error recovery procedure**(Figure 4 teaches the display)**, controls the printing unit to continue the print operation**(Figure 3 teaches that CPU 30 controls the print machine 10)**. In addition, Moro teaches an input unit for a user to input various instructions**(Input unit 1 in column 6, lines 52-57)**.

But this combination is silent on receiving a continue command from a user within a given time window, and in response to not receiving the continue command within the given time window, executing a skip printing procedure.

Seshimo, on the other hand, teaches receiving a continue command from a user within a given time window, and in response to not receiving the continue command within the given time window, executing a skip printing procedure. **(Column 3, lines 54-64 teaches awaiting for a print continuation instruction. If continuation instruction is not inputted within a predetermined time, then the subsequent print is inhibited.)**

Therefore, it would have been obvious for one of ordinary skill in the art, at the time of the present invention, to modify Hashimoto, Moro, and Matsumoto with Seshimo

to put forth a system wherein in response to receiving a continue command from a user within a given time window relative to the display, controls the printing unit to continue the print operation and, and, in response to not receiving the continue command from the user within the given time window, executing a skip printing procedure.

The motivation behind the modification is efficiency. By imposing a time limit on user inputs, the system becomes more efficient by expediting the error recovery process.

Yet, the combination of Hashimoto, Moro, Matsumoto, and Sheshimo fails to teach that if the error recovery method is a user operation, then displaying an error message and an operation guide message, prompting the user to input an instruction, and executing an error recovery procedure in accordance with the instruction from the user.

Kageyama, on the other hand, teaches that if the error recovery method is a user operation(**Column 14, lines 37-42 teaches that an error is recovered by a user operation.**), then displaying an error message(**Figure 1, step 2142 teaches displaying errors to the user**) and an operation guide message, prompting the user to input an instruction, and executes an error recovery procedure in accordance with the instruction from the user. (**Column 14, lines 40-42 teaches that the user inputs error recovery instructions. Following this, printing is restarted.**)

Therefore, it would have been obvious for one of ordinary skill in the art, at the time of the present invention, to modify Hashimoto, Moro, Matsumoto, and Seshimo with Kageyama to put forth an error recovery system wherein in response to the error

recovery method detected by the method detecting unit being a user operation recovery method the error recovery unit controls the display to display an error message and an operation guide message, prompting the user to input an instruction, and executes an error recovery procedure in accordance with the instruction from the user.

The motivation is to devise system that allows the user to conduct error recovery operations from the user computer if he/she has the capability to do so.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto(U.S. 2002/0039116) in view of Moro(U.S. 6,327,051), Seshimo(U.S. 6,971,732), and Matsumoto(U.S. 5,835,765).

Regarding claim 7, Hashimoto teaches a printer(**Printing machine 10 illustrated in figure 1**) enabling to set error recovery method for each error category comprising: a printer controller that controls a print mechanism that performs a print operation to print images on a recording medium based on print data received from a host computer(**Control unit 18 in figure 1 reads on the controller and 19a in figure 1 reads on the host computer**), the printer controller including a central processing unit (**CPU 30 in figure 3**), a nonvolatile memory(**ROM 34 and ROM 32 in figure 3**), and a random access memory (**RAM 31 in figure 3**), the nonvolatile memory storing a print control program(**Paragraph 4 teaches control operations that are stored in the ROM 32**), an error recovery method selection program, an error recovery program(**Paragraph 56 teaches the storage of various error routines**), an error category definition file(**Paragraph 71 teaches that ROM 34 stores an error classification table**), and an error recovery method definition file(**The error classification table, disclosed in**

paragraph 71, consists of the error recovery operations as well), the CPU controlling various components of the printer according to the programs stored in the nonvolatile memory(Paragraph 54 teaches that the CPU 30 controls various program routines), the print control program storing a printing control procedure including an error recovery procedure(Paragraph 71), the error recovery program storing a procedure for, depending on an error category of a detected error, automatically executing an error recovery procedure(Paragraph 71 and figure 4 teach print continuation as well as recovery via user action. The continued printing without any user action, in turn, implicitly teaches the automatic procedure stated in the claim language.), the CPU detecting an error during the print operation, the print operation being performable without change even if the error occurs(Paragraph 71 teaches a continuable error. The continued printing means that the print operation is performed without change even if the error occurs.), determining an error category of the detected error and executing a procedure according to the determined error category. (Paragraphs 61 and 63 teach the categorization of errors. i.e. ink error, discharge error. CPU 30, taught in paragraph 71, executes the recovery process.) In addition, Hashimoto teaches a display device. (Figure 4 illustrates a display unit)

Hashimoto fails to teach that the error occurs when print data received from a host is other than the operatable print data. Hashimoto also fails to explicitly teach a user interactive input device with which a user can input various settings and instructions.

Moro, on the other hand, teaches errors resulting from non-operatable print data. **(Column 26, lines 25-45 teaches paper size mismatch errors. This is an example of a non-operatable error since the operation cannot go forth due to the mismatch.)** Moro also teaches a user interactive input device with which a user can input various settings and instructions. **(Input unit 1 in column 6, lines 52-57.)**

Therefore, it would have been obvious for one of ordinary skill in the art, at the time of the present invention, to modify Hashimoto with Moro to put forth a printer that can detect non-operatable errors and perform a recovery process. This combination would also realize a user interactive input device with which a user can input various settings and instructions; and a display device for user interactive processing operations which displays various windows.

The motivation is to widen the category of errors that are detected. In turn, this will put forth a more comprehensive error detection system. The modification would also enhance the user interaction by enabling the user more inputs.

The combination of Hashimoto and Moro does not teach an automatic print continuation setting window and an operation guide message window.

Seshimo, on the other hand, teaches an automatic print continuation setting window and an operation guide message window. **(Column 3, lines 54-64 teaches awaiting for a print continuation instruction from the user. This inherently teaches the print continuation setting window. Also, the reference teaches that a user initiates processes with respect to the operation of the apparatus; this reads on the operation guide message window.)**

Therefore, it would have been obvious for one of ordinary skill in the art, at the time of the present invention, to modify Hashimoto and Moro with Seshimo to put forth an apparatus wherein the error recovery program storing a procedure for, depending on an error category of a detected error, controlling the display device to display, on the operation guide message window, an error message and an operation guide message corresponding to the error category so as to prompt the user to input an instruction as to whether to continue printing or not.

The motivation is to confirm the automatic print continuation. The confirmation from a user may avoid any further errors if the current usage environment does not permit automatic print continuation. .

The combination of Hashimoto, Moro, and Seshimo does not teach a method that allows a user to set and update the error recovery conditions.

Matsumoto, on the other hand, teaches a method that allows a user to set and update the error recovery conditions. **(Column 3, lines 40-50 teaches that the user is able to set predefined error recovery methods.)**

Therefore, it would have been obvious for one of ordinary skill in the art, at the time of the present application, to modify Hashimoto, Moro, and Seshimo with Matsumoto to put forth the method enabling a user to set recovery methods, the error recovery method selection program allowing a user to select an error recovery method for each error category and updates the error recovery method definition file according to the error recovery method selected by the user.

The motivation behind this modification is that the ability to update settings would optimize the use of the device by taking into account certain changes that took place since the initial setting.

5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto(U.S. 2002/0039116) in view of Moro(U.S. 6,327,051), Seshimo(U.S. 6,971,732), Matsumoto(U.S. 5,835,765), and Kitagawa(U.S. 5,799,206).

Regarding claim 8, the combination of Hashimoto, Moro, Seshimo, and Matsumoto teaches subject matter claimed in claim 7.

But this combination fails to teach error categories such as "sheet size mismatch error", "font selection error", "device configuration mismatch error", and "user data error".

Kitagawa, on the other hand, teaches error categories such as "sheet size mismatch error", "font selection error", "device configuration mismatch error", and "user data error". **(Column 21, lines 15-19 lists some examples of error categories. For example, they include font error, document error, emulation program error, and so on.)**

Therefore, it would have been obvious for one of ordinary skill in the art, at the time of the present invention, to modify Hashimoto, Moro, Seshimo, and Matsumoto with Kitagawa to fully put forth the subject matter claimed in claim 8.

The motivation simply is to expand the categories of errors detected in the recovery process. As a result, a more comprehensive recovery system is established.

Regarding claim 9, Kitagawa further teaches that the "sheet size mismatch error" occurs when the size of recording sheet mounted in the print mechanism does not agree with the size specified by the data received from the host computer(**Document error, stated in column 15-19 of Kitagawa '206, reads on this. Also note that column 2, lines 1-20 of Kageyama '757 talks about paper size.**), the "font selection error" occurs when the printer controller does not have a font whose attributes match the font attributes specified by the received data from the host computer(**The font error, stated in column 15-19 of Kitagawa '206, reads on this.**), the "device configuration mismatch error" occurs when the print mechanism cannot perform a print operation in a manner specified by the received data from the host computer for mechanical reasons, and the "user data error" occurs when received data from the host computer is in a data format that the printer cannot deal with or when a specified form overlay file is not provided in the printer. (**The emulation program error, stated in column 15-19 of Kitagawa '206, reads on both of these concepts.)**

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHISH K. THOMAS whose telephone number is (571)272-0631. The examiner can normally be reached on Mon-Fri from 0700-1530 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ashish K Thomas/
Examiner, Art Unit 2625

/David K Moore/
Supervisory Patent Examiner, Art Unit 2625